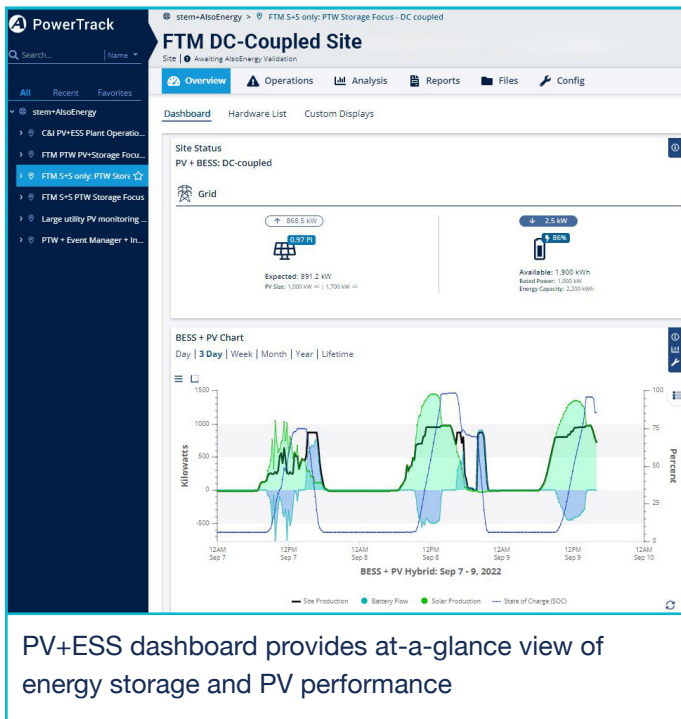


Complete monitoring solutions for PV + storage

AlsoEnergy offers a vertically-integrated, edge-to-cloud platform for clean energy assets. PowerTrack, our flagship cloud application now on Stem's Athena platform, provides solar + storage monitoring for asset optimization. PowerTrack features advanced performance analytics and diagnostics, integrated CMMS job ticketing and reporting, KPIs, and aggregation tools for asset managers.



- Cost-effective monitoring solution for distributed clean energy resources on one application
- Portfolio level visualization and management of PV, standalone BESS, and Hybrid PV+BESS site types
- Energy flow visibility in a simple easy-to-read format
- Standard and customized reporting
- Battery system alerts and alarms for O&M and asset management
- Self-Generation Incentive Program (SGIP) and agency reporting
- Availability and system performance evaluation

Typical monitoring edge solution includes:

- PowerManager 2000
- Weather station
- Revenue-grade PV, demand, and battery meters
- Cell modem

Battery storage dashboards metrics:

- State of charge
- Available energy
- Charge and discharge power & energy
- EMS system status
- PV performance on both AC and DC-coupled topologies
- Block-level detail

Technical data

PowerManager	Devices supported	Up to 200 devices
	Logging interval	Configurable down to 1 second
	Offline storage	More than 4 months offline storage with 200 field devices logging at 1 minute intervals
	Configuration	Remote automated configuration; local network setup
	Software management	Remote software update capability
	Tools support	Ability to use third-party, Windows-based tools through secure remote desktop connection
	Local display	Supports local HMI and remote desktop access
	Native control capabilities	External command input (Modbus or DNP3) for real-time or scheduled set points; zero net export restriction; maximum export limit; closed loop reactive power control; closed loop ramp rate control; closed loop grid voltage control
	Telemetry	Customizable DNP3 or Modbus TCP upstream interface
Interfaces	Ethernet	4 x 10/100/1000 ports
	Primary protocols	Modbus TCP, Modbus RTU, DNP3, HTTP, HTTPS, Telnet, FTP, SNMP, inverter protocols, RDP, VPN
	Discrete I/O	4DI, 4DO
	Display	1x VGA
	Peripheral support	USB ports for keyboard and mouse
Mechanical	Mounting configuration	Panel or DIN mount
	Dimensions	132 H x 122 W x 87 D mm (5.2 x 4.81 x 3.43 in)
Environmental rating	Operating temperature	-40 to 70°C (-40 to 158°F)
	Storage temperature	-45 to 75°C (-49 to 167°F)

Technical data for PowerManager 2200; specifications may vary with device models



Technical data

Electrical	Input voltage	11.4 to 36 VDC		
	Power consumption	30W maximum, 10W typical		
	Surge protection	Designed with protection against transients and ESD for use in harsh environments		
Regulatory	Warranty	Standard 5-year warranty		
Components <small>(choose up to one option in each category)</small>	EMC	EN 55032/24		
	EMI	CISPR 32, FCC Part 15B Class A		
		IEC 61000-4-8 PFMF		
		IEC 61000-4-6 CS: 10 V		
	EMS	IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV		
		IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV		
		IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m		
		IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV		
	Power supply	Power supply 85 to 264 V AC / 44 to 66 Hz mains		
		Power supply 85 to 264 V AC / 44 to 66 Hz mains & UPS with 2 batteries (17 Ah AGM integrated)		
Power supply 85 to 264 V AC / 44 to 66 Hz mains & UPS with 2 batteries (40 Ah AGM external enclosure)				
Hazardous locations	ATEX Zone 2	Class I Division 2	IECEX Zone 2	
Maritime	DNV-GL	IEC 60945		
Radio frequency	FCC			
Safety	UL 60950-1			